CLAIMS

What is claimed is:

1. A method of servicing a wellbore in contact with a subterranean formation, comprising: displacing a sealant composition comprising a colloidally stabilized latex into the wellbore.

2. The method of claim 1, wherein the colloidally stabilized latex comprises:

an aliphatic conjugated diene monomer;

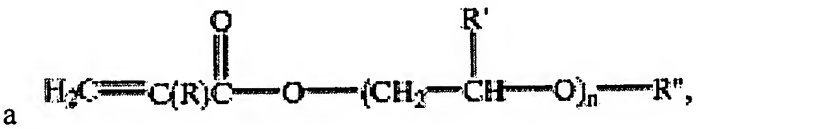
an additional monomer comprising a non-aromatic unsaturated mono- or di- carboxylic ester monomer, an aromatic unsaturated monomer, a nitrogen-containing monomer, or combinations thereof; and

a protective colloid.

3. The method of claim 2, wherein the protective colloid comprises polyvinylalcohol, a cellulose ether, a natural gum, a synthetic gum, polyacrylic acid, an acrylate, a poly(vinyl alcohol)co(vinyl amine) copolymer, or combinations thereof.

4. The method of claim 2, wherein the colloidally stabilized latex comprises a surfactant having ethylenic unsaturation to allow the surfactant to copolymerize with the aliphatic conjugated diene monomer and the additional monomer, thereby forming a polymer having the surfactant in its backbone.

5. The method of claim 2, wherein the colloidally stabilized latex comprises an oxyalkylene functional monomer comprising



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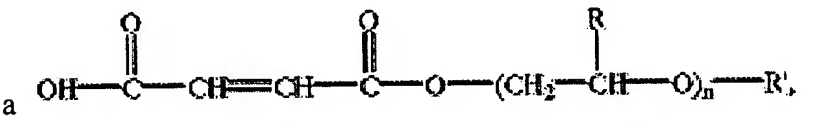

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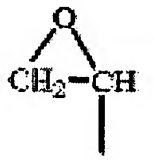
a monoester of mono- or di- carboxylic acid, a diester of dicarboxylic acid, or combinations thereof, wherein R is hydrogen or a C_1-C_4 alkyl, R' is hydrogen or a C_1-C_4 alkyl, R" is hydrogen or a C_1-C_4 alkyl, and n is in a range of from 1 to 30, and wherein the oxyalkylene functional monomer copolymerizes with the aliphatic conjugated diene monomer and the additional monomer.

6. The method of claim 2, wherein the colloidally stabilized latex comprises a functionalized silane generally represented by:

$$R(CH_2)_nSi(OR')_m(R'')_{3-m}$$

wherein R" is a C_1 to C_5 alkyl, R' is a C_1 to C_5 alkyl, R is SH, CH_2=CH–, CH_2=C(CH_3)–C(O)O–, CH_2=CH–C(O)O–, or



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n is in a range of from 1 to 10, and m is 2 or 3.

7. The method of claim 1, wherein the colloidally stabilized latex remains substantially stable in the presence of salt.

8. The method of claim 7, wherein the salt comprises a monovalent ion, a divalent ion, or combinations thereof.

9. The method of claim 1, wherein the sealant composition comprises salt.

10. The method of claim 1, wherein the sealant composition comprises fibers, beads, or combinations thereof.

11. The method of claim 1, wherein the sealant composition comprises a cement slurry.

12. The method of claim 8, wherein the sealant composition is displaced into an annulus of the wellbore and allowed to set.

13. The method of claim 1, wherein the sealant composition is positioned in the wellbore to isolate the subterranean formation from a portion of the wellbore, to support a conduit in the wellbore, to plug a void or crack in the conduit, to plug a void or crack in a cement sheath disposed in an annulus of the wellbore, to plug an opening between the cement sheath and the conduit, or combinations thereof.

14. The method of claim 1, wherein the colloidally stabilized latex comprises a vulcanizable group, a vulcanizing agent, a vulcanization accelerator, a vulcanization retarder, or combinations thereof.

15. The method of claim 1, wherein the colloidally stabilized latex comprises a crosslinkable monomer, an acidic catalyst, a thermosetting resin, or combinations thereof.

16. The method of claim 1, further comprising combining a drilling fluid with the sealant composition near a loss-circulation zone, thereby forming a solid mass in the loss-circulation zone.

17. A sealant composition for use in a wellbore, comprising a colloidally stabilized latex.

18. The sealant composition of claim 17, wherein the colloidally stabilized latex comprises:

an aliphatic conjugated diene monomer;

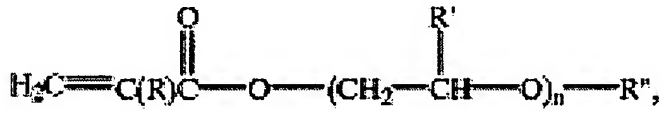
an additional monomer comprising a non-aromatic unsaturated mono- or di- carboxylic ester monomer, a nitrogen-containing monomer, or combinations thereof; and

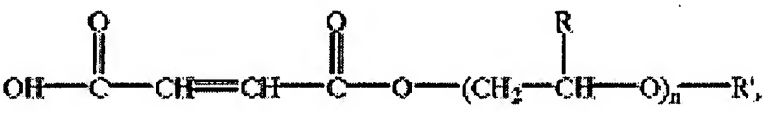
a protective colloid.

19. The sealant composition of claim 18, wherein the protective colloid comprises polyvinylalcohol, a cellulose ether, a natural gum, a synthetic gum, polyacrylic acid, an acrylate, a poly(vinyl alcohol)co(vinyl amine) copolymer, or combinations thereof.

20. The sealant composition of claim 18, wherein the colloidally stabilized latex comprises a surfactant having ethylenic unsaturation, wherein the surfactant can copolymerize with the aliphatic conjugated diene monomer and the additional monomer.

21. The sealant composition of claim 18, wherein the colloidally stabilized latex comprises an oxyalkylene functional monomer comprising

a  ,

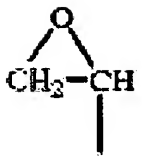
a  ,

a monoester of mono- or di- carboxylic acid, a diester of dicarboxylic acid, or combinations thereof, wherein R is hydrogen or a C_1-C_4 alkyl, R' is hydrogen or a C_1-C_4 alkyl, R" is hydrogen or a C_1-C_4 alkyl, and n is in a range of from 1 to 30, and wherein the oxyalkylene functional monomer copolymerizes with the aliphatic conjugated diene monomer and the additional monomer.

22. The sealant composition of claim 18, wherein the colloidally stabilized latex comprises a functionalized silane generally represented by:

$$R(CH_2)_nSi(OR')_m(R'')_{3-m},$$

wherein R" is a C_1 to C_5 alkyl, R' is a C_1 to C_5 alkyl, R is SH, CH_2=CH–, CH_2=C(CH_3)–C(O)O–, CH_2=CH–C(O)O–, or



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n is in a range of from 1 to 10, and m is 2 or 3.

23. The sealant composition of claim 17, wherein the colloidally stabilized latex is substantially stable in the presence of salt.

24. The sealant composition of claim 23, wherein the salt comprises a monovalent ion, a divalent ion, or combinations thereof.

25. The sealant composition of claim 17, further comprising salt.

26. The sealant composition of claim 17, further comprising fibers, beads, or combinations thereof.

27. The sealant composition of claim 17, further comprising a cement slurry.

28. The sealant composition of claim 27, wherein the sealant composition is disposed in an annulus of the wellbore.

29. The sealant composition of claim 17, wherein the sealant composition is disposed in the wellbore.

30. The sealant composition of claim 17; wherein the sealant composition is disposed in a void or crack of a conduit in the wellbore.

31. The sealant composition of claim 17, wherein the sealant composition is disposed in a void or crack of a cement sheath in the wellbore.

32. The sealant composition of claim 17, wherein the sealant composition is disposed in a space in the wellbore between a cement sheath and a conduit, the cement sheath being positioned between the conduit and a wall of the wellbore.

33. The sealant composition of claim 17, wherein the colloidally stabilized latex comprises a vulcanizable group, a vulcanizing agent, a vulcanization accelerator, a vulcanization retarder, or combinations thereof.

34. The sealant composition of claim 17, wherein the colloidally stabilized latex comprises a crosslinkable monomer, an acidic catalyst, a thermosetting resin, or combinations thereof.

35. The sealant composition of claim 17, further comprising a drilling fluid.